



**ST. LAWRENCE AND ATLANTIC
RAIL-ROAD.**

**PROCEEDINGS
OF A
SPECIAL
GENERAL MEETING OF PROPRIETORS,**

Held in Montreal, on the 30th July, 1846,

**AND
REPORT
OF
A. C. MORTON, ESQUIRE,
CHIEF ENGINEER.**

**MONTREAL:
PRINTED AT THE CANADA GAZETTE OFFICE.**

1846.

ST. LAWRENCE AND ATLANTIC

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PROCEEDINGS

Of a MEETING of the ST. LAWRENCE and ATLANTIC RAIL-ROAD COMPANY, held in Montreal, at Daly's (late Rasco's) Hotel, on the 30th of July, 1846.

The Honorable GEORGE MOFFATT, President of the Board of Directors, was called to the Chair.

Mr. STEERS, Secretary.

The Chairman then addressed the assembly, and explained the objects of the meeting and the state of the finances of the Company.

Mr. STEERS, then read the following Report of the Board of Directors, and the correspondence that had passed between them and the Provisional Committee in London.

R E P O R T .

THE BOARD OF DIRECTORS of the St. Lawrence and Atlantic Rail-road Company, beg leave to Report,

That an Act of the Provincial Parliament of Canada, amending the Charter of the Company, was passed on the 9th June last,—this Act is laid on the table, and the Directors are happy to state, that it places the Company in a position more favorable for the proper control of their affairs.

That since the Meeting of the Proprietors, held on the 15th of April last, the operations and disbursements connected with the Company's affairs, have been confined to the prosecution of necessary surveys, which have been extended over a distance of about 70 miles, and have resulted most satisfactorily, as will be seen by the Engineer's Report in detail, to be read by the Treasurer.

That an agreement has been entered into with the Atlantic and St. Lawrence Rail-road Company, of Maine, providing for mutual Corporation, in the prosecution of the general undertaking, and containing such provisions, as it has been deemed necessary to agree upon, preparatory to commencing an outlay, on a work whose success is so much dependent, on uniform action, by the two Corporations.—This agreement is laid before the Meeting, for the information of Proprietors.

That on the 4th instant, the Atlantic and St. Lawrence Rail-road Company, commenced the actual construction of their portion of the work, by breaking ground at Portland, at which ceremony, Delegates from this Board attended by invitation, and they report, that from the enthusiasm manifested by the authorities and Citizens of Maine, no doubt need be entertained, of the American portion of the line being energetically prosecuted, to the point of junction, at the Frontier.—The Directors have also gratefully to acknowledge, the hospitable and flattering reception tendered to their delegation, and to other Canadian Stockholders present, and the strong feeling of mutual interest, which prompted the most anxious solicitude for the success of the Canadian enterprise.

The Directors having thus detailed the exact progress made in the Company's affairs, since the last meeting, beg to state, that the Proprietors have now been called together, in redemption of the pledge given at the General Meeting of the 22nd January, that before entering upon the execution of any portion of the work (surveys excepted) a Meeting of the Proprietors should be called, at which, all parties interested might be represented, for the purpose of deciding on future proceedings, and it is with much regret that they find, the Scripholders in England have not availed themselves of the opportunity thus afforded, of assisting in the final decision of the Company's affairs. In their absence it is the duty of the Directors to lay before the meeting certain correspondence which has passed between them and the Gentlemen composing the London Committee, and which they regret to state indicates a partial withdrawal of confidence in the undertaking, in the English Proprietors.

In reference to this correspondence, it must be remarked, that no information has been given to the Directors, to shew the amount of interest in the Company, held by the dissentients.

Although the Directors are assured, that they have the legal right to resist the demand of any parties for the return of the deposit paid, yet they feel that to justify a resistance of this demand, and their recommending a prosecution of the work in the face of such a claim, they must be assured, as well of the entire and cordial support of the remaining Proprietors as of their being placed in such a position, as would warrant a just confidence in

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their ability to proceed, independent of any assistance from dissentient Scripholders.

As the decision which the Directors expect to arise from the action of the present Meeting must be final as to the success or abandonment of the enterprise, they feel it their duty, solemnly to record, their unanimous opinion, that never, since the first agitation of this great work, have there existed such imperative reasons, for its formation by the citizens of Montreal and of Eastern Canada.

The adoption of free trade as the commercial policy of Great Britain, and the legislative enactment in the United States, made to engross as far as possible the carrying trade from the Great Lakes and the St. Lawrence, have, in their opinion, in their application to Canada, greatly increased the previous necessity for the Montreal and Portland Rail-road, and sufficiently indicate the importance of emulating the enterprize of their republican neighbours, and of opening new channels for that commerce which otherwise must be diverted from the St. Lawrence, that the merchants of Montreal cannot possibly maintain a competition with those of the United States, unless they possess equal facilities of intercourse, which this Rail-road will afford, and that the Directors must infer a disastrous reaction in the value of property in this City, unless those interested therein take instant and energetic means to meet the exigencies of their position, and the crisis which has now arisen. Finally, it only remains to repeat, as the revised and deliberate opinion of this Board, that the outlay contemplated on this Rail-road, must prove highly remunerative to the proprietors, as is shewn at length in the able Report of the Chief Engineer herewith.

But while expressing their undiminished confidence in the merits of the enterprise, the Directors are bound to state, frankly, and candidly, that their views do not appear to be shared by their fellow citizens generally—and that from the Stockholders themselves, they have not received that cordial support which they had a right to expect from their election—a large number of shares remain in default, and in many other cases, much hesitation has been shewn in the payment of the first instalment,—indeed it may be remarked, in justice to such of the English Subscribers as intended their stock to be *bonâ fide* investments in the work, that the apathy evinced in Canada might well warrant their belief in the inexpediency of its prosecution.

Strongly impressed however with the paramount importance of the interests, contingent upon the construction of this Rail-road, the Board of Directors consider it their duty, once again, to appeal to the Proprietors, and the Canadian public generally, recommending a renewed effort to ob-

tain subscribers, preparatory to a meeting which they propose to call for the Seventeenth August next, when should they not have received that additional support, which they conceive to be necessary, this Board will be prepared to advise, that so far as it can be legally effected, the enterprize be abandoned, from the want of sufficient means to carry it out; on the other hand, should the proposed appeal afford sufficient evidence of a determination on the part of the Citizens of Montreal, and the adjoining Districts, to complete the road, the Directors are prepared to recommend to the proprietors the immediate letting of the Contracts, for the first thirty miles, from Montreal to St. Hyacinthe, and the adoption of such further course as will enable them to prosecute the work cautiously, but successfully.

All which is respectfully submitted.

G. MOFFATT,

President.

Montreal, 30th July, 1846.

Mr. MOFFATT explained that the present meeting was intended to be held on the first of the month, but had been deferred to that day to give an opportunity to the English subscribers to send representatives; but it appeared that none had come.

Moved by B. HART, Esq., seconded by BARON GRANT DE LONGUEUIL,

Resolved 1,—That this meeting do approve of the course followed by the Board of Directors, as being in conformity with the recommendations of the General Meetings of 22nd January and 15th April last, as well as with the suggestion of the Provisional Committee in London—and that the Report now read be received and adopted.

Moved by CAPT. MOORE, of Sherbrooke, seconded by GENERAL EVANS,

Resolved 2,—That it is highly gratifying to this meeting to learn from the Report of the Chief Engineer, that the survey has thus far proceeded most satisfactorily, and that the facilities presented by the route, both in Canada and in the United States, greatly exceed the favourable anticipations previously formed in relation to the Rail-road.

Moved by GEO. DESBARATS, Esq., seconded by R. ARMOUR, Esq.

Resolved 3,—That the actual commencement of the American portion of the Rail-road, and the zeal manifested by the authorities and citizens of Maine, afford the strongest evidence, that the Canadian line can proceed

with the utmost reliance of being met by them at the frontier, and that no means should now be left untried to redeem the pledges given of hearty co-operation by the inhabitants of this Province.

Moved by The Hon. MR. MORIN, seconded by J. G. M'KENZIE, Esq.

Resolved 4,—That this meeting learns with much regret, that a number of the Scripholders in England have expressed their desire to abandon the undertaking, by requiring repayment of their deposits,—a demand which this company will more fully consider at their next meeting. But they continue in the belief, that the important interests involved in the prosecution of this work, arising from the altered commercial policy of Great Britain, dictates renewed exertion in Canada, before it would be prudent to entertain a proposal involving the sacrifice of the expenditure already incurred, when the prospects of the investment proving highly profitable, are daily augmenting.

Moved by DAVID TORRANCE, Esq., seconded by J. GLASS, Esq.

Resolved 5,—That the Stockholders present at this Meeting are with great reluctance, compelled to express their acquiescence in the view of the position of the Corporation set forth in the Report now read, and to declare, that unless a more correct appreciation of the merits of this Rail-road be evinced in Canada, the enterprize cannot proceed for want of adequate means. They would, therefore, most earnestly entreat their fellow citizens to consider, that on the prosecution of this undertaking must now mainly depend the future prosperity of Montreal and its vicinity ; that to this work the Merchants and Landholders must look for important aid in that keen competition which the Free Trade policy of the British Government has brought to our threshold ; that by it the resources of the Eastern Townships will be rapidly opened up, their manufacturing capabilities developed, and their general trade directed to this mart ; thus securing to us the supply of a numerous and increasing population, which otherwise will inevitably be lost through the American rail-ways now rapidly approaching the frontier ; and that, without this work be constructed, the depreciated value of real estate in Montreal, from its ceasing to be the commercial emporium of Canada, will probably exceed any limit that our worst apprehensions would at present assign to it.

Moved by HUGH TAYLOR, Esq., seconded by DR. MCCULLOCH,

Resolved 6,—That with the view of leaving no means untried of enlisting a further public support of the undertaking, a Committee of five be appointed, jointly with the Board of Directors, to solicit subscriptions of shares, and finally to report as to the number of Shareholders to the General Meeting of Proprietors to be held at the Company's Office, on

Monday, 17th August next, when the question of immediately proceeding with the work, or of legally dissolving the Company, will be finally considered. The Committee to consist of the following Gentlemen, with power to add to their number :—Messrs. Elder, Jean Bruneau, O. Berthelot, L. M'Pherson, J. G. M'Kenzie, Leclair, of St. Hyacinthe.

Moved by WILLIAM LYMAN, Esq., seconded by SHERIFF BOSTON,

Resolved 7,—That the Report of the Chief Engineer, A. C. MORTON, Esq. be printed, and the proceedings of this meeting be published in the English and French languages, to the extent of 500 copies of each.

Moved by MR. DESBARATS, seconded by MR. TORRANCE, and

Resolved 8,—That the thanks of this meeting be and they are hereby tendered to the Honorable Chairman for his able and dignified conduct in the Chair.

The meeting adjourned.

THOMAS STEERS,

Secretary.

Montreal, 30th July, 1846.

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REPORT OF A. C. MORTON, ESQ.

CHIEF ENGINEER.

ENGINEER'S OFFICE,

MONTREAL, 29th July, 1846.

TO THE

HONORABLE GEORGE MOFFATT,

President St. Lawrence and Atlantic Rail-road Co.

SIR,—I have the honor to submit a brief statement of the surveys made for your road up to the present date, with some general observations relative to the work and the character of the country through which it passes.

At the date of my last Report, the surveys for the southern route had been closed and the Engineers engaged in this service transferred to the northern route. The surveys of this route were commenced simultaneously at the St. Lawrence opposite Montreal and the St. Francis near Melbourne by the two Resident Engineers in the service of the Company, and these lines have been united at the Village of St. Hyacinthe.

The preliminary surveys for the St. Lawrence division have been extended to St. Hyacinthe, and the final location of the road made between the latter point and the Richelieu River. That portion of the line between the Richelieu and the St. Lawrence may be considered an approximate location, and will require but a few days to perfect the surveys.

It was deemed important in the present state of the water in the St. Lawrence to make the requisite examinations with a view to determine the most favorable point for the terminus of the road, and the Resident Engineer of this division is now performing this service. On the completion of this survey the location of the road between the St. Lawrence and the Richelieu will be resumed, and the whole line to St. Hyacinthe, a distance of 29.70 miles, will be prepared for contract at an early date.

The location of this division of the road has so far advanced as to enable me to present some of its leading features. It is straight from the St. Lawrence to the southerly side of Montarville mountain, a distance of $10\frac{11}{100}$ miles; thence, after curving slightly to the North, it is straight to

the Richelieu River, a distance of about $5\frac{1}{10}$ miles. After crossing this stream, a slight deviation is made from a direct line in order to attain the elevated table on the east side of the River and to pass the North side of Belœil mountain, thence to St. Hyacinthe the line is straight, a distance of $12\frac{1}{10}$ miles.

The grade of 53 feet per mile and the deep cut encountered by the former survey on the east side of Richelieu River have been avoided, and there will therefore be no inclination on this division of the road much exceeding 30 feet per mile, and this will only be required at the above-mentioned point, all other portions of the line are level or with but slight inclinations.

The earth-work of this division will be light, consisting generally of a continuous embankment of about 5 feet in height, to be formed of earth excavated from side ditches. It is recommended in all cases when practicable to elevate the road bed 5 feet above the general surface of the country with a view to more perfect drainage and to facilitate the removal of snow from the track.

The bridge for crossing the Richelieu River will be about 1000 feet in length, including the draw, and will be an expensive structure. I have however after much examination of the River determined on a site for this work which may be regarded as highly favorable. The River was carefully examined for a distance of 3 miles in the vicinity of Belœil, and the depth of water found to vary from 14 to 30 feet; the channel in no case, except at the rapids above Belœil, was found of a less depth than 14 feet. After running various trial lines and making numerous measurements and soundings, I have selected a point on the rapids about one mile above Belœil as offering on the whole the greatest advantages for the construction of this bridge.

The channel of the River at this point is near the west shore and is narrow, not exceeding 200 feet in width, its greatest depth is 16 feet. After crossing the channel the remaining portion of the River varies in depths from 2 to 7 feet, and the bottom consists of stone and gravel.

The draw should be introduced at the west end of the bridge where it can be constructed at less expense and may be approached by vessels navigating the River in both directions in a favorable manner. The examinations to determine definitely on the position of the bridge are not yet completed, but these will be made in conjunction with the location of the road on each side of the River.

Should the Board decide to put this division under contract, the location could be made and the plans, specifications, &c., prepared for letting the work early in September next.

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With a view to give time for the consolidation of the embankment and the more perfect construction of the work in all its parts, I would recommend that the first day of July, 1848, should be selected as the time at which the road should be completed and open for business, and that the contracts for various kinds of works and materials delivered, should be limited to such time as will accomplish this object.

As for a portion of each year it will be impracticable to do much work, it will probably require this length of time to complete it in a permanent manner, and I consider the period named a more favorable time for opening the road than in the autumn. Assuming therefore that this division of the road should be completed, at that time, the following provisions should be made:

First. The grading should be placed under contract by the 15th of September next, and vigorously pressed forward with a view to complete it at the earliest practicable period.

Second. The Iron should be ordered sufficiently early to enable the Manufacturers to ship one half the quantity required in time to arrive in Montreal in the month of July next, and one fourth in the month of September, and the remainder in May, 1848.

Third. Two Locomotive Engines should be ordered, one to be completed and delivered on the road by the first of August 1847, and the other in June 1848. Also two passengers cars, three box or covered cars for freight, and six platform cars, the latter to be delivered on the road in the month of July and August 1847, and the passenger and covered freight cars to be delivered in June 1848. As the laying the track of the road will be commenced at the St. Lawrence, the Locomotive and cars will be required for the transportation of iron, timber, ballasting, &c., as the work progresses.

Fourth. The title to all the land required for the road way and stations should be obtained during the present summer and autumn.

On the supposition that this portion of the road will cost £160,000, and that it is to be completed by the time above specified, the quarterly disbursements will be nearly as follows, to wit:

For the first quarter embracing the months of August, September and October, payments for land damages and grading should be made to the amount of..... £5,900

The next quarter, November, December and January, will embrace the expenditure for grading and materials delivered, which will amount to about..... 9,325

For that quarter embracing the months of February, March and April 1847, the disbursements will be principally for materials delivered, and will amount to nearly..... 4,850

For the months of May, June and July, the payments for grading, timber, iron, &c., will be about..... 44,175

For August, September and October, the expenditure for grading, iron, locomotive, cars, &c., will be about..... 43,050

The disbursements for November and December 1847, and January 1848, will be nearly..... 15,900

For February, March and April 1848, the expenditures will probably be about..... 8,350

The last quarter May, June and July 1848, the disbursements for track, buildings, cars and engines, will probably amount to... 28,450

Total.....£160,000

The above I trust approximates sufficiently near the expenditure required within the periods named, to enable the Board to make provisions by timely calls on the Shareholders for instalments.

It is proper, however, to state in connection with this subject, that tenders have been received from responsible companies to construct a portion or the whole of the road and invest from 20 to 30 per cent of the amount of their contracts in the capital stock of the company.

Should this arrangement be effected, the percentage of stock would be deducted from the payments made, from time to time, thereby reducing the cash disbursements a corresponding amount.

The results of the surveys of that part of the line between St. Hyacinthe and the St. Francis River at Melbourne, are of a highly favorable nature, and fully confirm the opinion entertained of the northern route at the date of my last report.

These surveys are nearly closed, but I have not yet received the Report of the Resident Engineer, and am therefore unable to give full results. The country, however, is of a favorable character, abounding with large quantities of choice timber and other building materials required for the road. The sub soil is of a sandy nature, affording a most excellent material for road bed.

A very considerable portion of the line is straight, and the grades are favorable.

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The Resident Engineer in charge of these surveys, has been instructed to repair with his party to the St. Francis river, near Melbourne, and proceed with the examination of the country up the valley of that stream to Lennoxville, a point about five miles above Sherbrooke.

From this place to the Boundary line, the topography of the country indicates that there may be three routes, which may be distinguished as the Eastern, Middle and Western routes. The Eastern would follow up one of the Western branches of the St. Francis, and cross to the head waters of the West branch of Hall stream, which it would follow to the main stream, thence down the latter to the Boundary near the Connecticut river.

The Middle route after leaving the St. Francis valley, would be located up the valley of Moés stream to the main dividing ridge, thence down Leech stream to the Province line, near Canaan, Vermont.

The Western route would follow up the valley of the Coaticook river to the Boundary line. This stream has its source in the state of Vermont and *interlocks* with the Nulhegan river flowing into the Connecticut.

The Atlantic and St. Lawrence Rail-road Company would connect with your Road for the Middle and Eastern routes, through the valley of the Connecticut, and for the Western route through the valley of the Nulhegan river.

That corporation has made the necessary surveys to unite with your road on the Middle and Eastern routes, but no surveys have been made through the valley of the Nulhegan, by which a junction would be formed for the Western route.

The Resident Engineer, in whose charge these surveys are placed, has been instructed to first examine the middle route, which it is supposed may possess superior advantage to either of the others; after which if circumstances should render it necessary, to examine one or both of the other routes.

The distance from the point where the line enters the St. Francis valley near Melbourne, to Lennoxville, will not probably vary much from 31 miles, thence from the diverging point to the Boundary to survey the three routes above mentioned would make a further extension of line of about 90 miles, making in all 120 miles yet to be examined.

This considering the character of the country is a greater extent of line than could be surveyed this season, by the Engineer Corps now in the service of the Company, provided the first Division of your road is put under contract, but as it may be unnecessary to survey more than one or two of

these routes, it may be accomplished with one party of Engineers. I would not therefore, at present, recommend any increase of the Engineer Corps for this service.

Before closing this Report, permit me to allude briefly to your road in connection with the Atlantic and St. Lawrence Road, which taken together are to form a continuous line from the St. Lawrence at Montreal to the Atlantic at Portland.

From my position as Engineer of the whole road, I have become intimately acquainted with the entire country traversed by this great work, and am familiar with its Topography, facilities of construction and resources.

Embracing with one view this section of country, it will be observed by reference to the annexed maps and profiles, that there is but one summit or main dividing ridge, between the waters which flow into the St. Lawrence and those flowing into the Atlantic, that the approach to this summit is through the valleys, of large streams, affording long and easy slopes for overcoming its elevation.

The principal highlands intervening between the St. Lawrence and the Atlantic are the White and Green Mountain ranges. The former is crossed through the valley of the Androscoggin and Ammonoosuck rivers with no inclination exceeding 40 feet per mile, with but a slight undulation in the grade of the road and no heavy work whatever. The latter extends into Canada, but falls off as it approaches the St. Lawrence basin, and is principally avoided by following the Valley of the St. Francis and Black Rivers.

Nearly the whole route from Montreal to Portland has been carefully surveyed, and it gives me great pleasure to state that I know of no line of equal extent connecting the western waters with the Atlantic which will compare with this for the great extent of easy grades, straight lines and cheap construction. While other lines are subjected to great disadvantages from steep grades, abrupt curvature and excessive cost, this is happily exempt from nearly all.

A large portion, equal probably to one half the whole of this road, will be either level or of inclinations not exceeding 20 feet per mile. The curvatures are all easy, and nearly equivalent to a straight line. Passenger trains may pass over the whole road in the space of 10 hours, and the largest class of freight engines will be able to transport 200 tons over the road in either direction.

With a view to illustrate more clearly the great advantages this road possesses for cheap transportation and the attainment of great velocity, compared with other great roads designed as channels for the western trade, I

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have prepared diagrams exhibiting the grades and elevations passed over by several of these lines, viz. that between Portland and Montreal, the Western Road from Boston, and the New York and Erie Road.

It will be observed by reference to these profiles, that the former road has but one main summit, and that the grades are either level or descending with the preponderance of the trade for a large portion of the whole road. That the last two mentioned roads have several high summits and grades from 60 to 80 feet per mile.

As regards the cost of transportation on the St. Lawrence and Atlantic Rail-road, the most satisfactory information would be gained by comparing it with some line of nearly equal extent and facilities and designed for general trade.

Perhaps no other road at present in operation approaches nearer to it as it regards its object and design than the Western Rail-road in Massachusetts, yet the cost of transportation on this road will much exceed that on the St. Lawrence and Atlantic, from the more unfavorable character of the grades and large amount of curvature.

On the Western Road there are three elevated summits, to surmount which the following grades are required, to wit :

3 miles of 60 feet per mile

1½ " 68 & 69 "

5¼ " 74 "

6 " 78 & 79 "

2 " 82½ & 83 "

The total rise and fall is over 4000 feet. The length of curved line on this road is 75½ miles or 48 per cent of its whole length, and the minimum radius is 859½ feet.

Relative to the grades on the road from Montreal to Portland, I have already stated, that the inclinations probably on one half the whole distance will not exceed 20 feet per mile. The maximum grade as indicated by the surveys thus far will be about 50 feet per mile, and this is confined to comparatively a short distance. It is believed that from 80 to 90 per cent of the whole road will be straight, and the curvatures will be easy.

In the comparison therefore of these roads, it is believed that we are fully sustained by the above facts in the conclusion that the cost of transportation on this road will not equal, but fall considerably below that on the Western Road.

In referring to these roads, we desire to be understood as not wishing to draw any invidious comparison, or in the least to detract from the great merits of these roads as a means of communication with the West, for both are entitled to the fullest confidence of the public.

The New York and Erie Rail-road is as yet unfinished, but the present business of that portion now in operation affords the most gratifying evidence of the entire success of this great project when it shall have been completed.

The Western Road has been in operation several years, and as a great thoroughfare it is eminently successful. With its present rate of increase of business it will, in a few years, rank among the most profitable Rail-road investments in the country.

These roads have been referred to, only with a view to exhibit their leading features as contrasted with this work, and to illustrate more forcibly the success which will always attend works of this character.

The gross receipts of the Western Rail-road for 1845 were.....£203,370
The total expense of operation the Road for the same year was,.....92,655

Annual net income equal to.....£110,715

The St. Lawrence and Atlantic, and the Atlantic and St. Lawrence Rail-roads will be about 280 miles in length, 130 miles of which are in Canada, and the net annual income supposing it to be in the same proportion as the Western road will amount to.....£198,719

We will assume for the present the two roads forming a continuous line from Montreal to Portland constructed in the most permanent manner, and fully equipped with cars, engines, depots buildings, &c., for the most extensive business, will cost the sum of.....£2,000,000

To which if we apply the net annual income as obtained above we have as the result an annual dividend of nearly 10 per cent.

It will be observed that in the above estimate of revenue it is assumed that the cost of transportation on your road will be as great as on the Western road, which evidently will not be the case. And it is also assumed that the cost of the whole road to Portland will be two million pounds, currency, which is a much greater sum than it ever has been estimated to cost.

Applying as above the business results of the Western Rail-road for 1845 to your road, and assuming the cost of the Road to be £1,750,000, the net revenue gives a dividend of $11\frac{1}{2}$ per cent.

I would further observe, that the Western Road, in connection with the Boston and Worcester Road, forms a continuous line from Boston to Albany of 200 miles in length, and its design is to secure to Boston the Western trade. In its construction great obstacles were to be overcome. A mountainous section of country was to be crossed, requiring, as already stated, heavy grades and a large expenditure of money. This has been accomplished, and the experiment, for in this light it was viewed by many, has succeeded.

To give an idea of the formidable obstacles encountered, I would state, that one section of this road known as the Mountain Division, comprising a distance of 14 miles, cost £245,000, or £17,500 per mile, and a single mile cost £54,982. The total cost of the road up to January 1st, 1846, was £1,999,888.

In its business it has to contend with a strong competition, with Steam-boats on the Hudson River, and another Rail-road. Notwithstanding these unfavorable circumstances, the gross receipts in 1845 were £203,370, and its net receipts for the present year, will probably equal a dividend of over 6 per cent. on its cost.

With reference to your road as a great thoroughfare, it occupies a most remarkable position connecting as it does the St. Lawrence and the Atlantic, at a point where the New England coast approaches the nearest to the western waters, and having a large and populous city at either terminus, with capacious harbours and a rich intervening country, it cannot fail to be one of the most important and profitable roads yet commenced.

From its peculiar position it never can be subject to competition. It is the shortest and cheapest channel through which the travel and trade of the Provinces can reach the seaboard.

With a long line of natural and artificial communication connecting Montreal with the western waters and the far west, it cannot be doubted that the completion of this last link will change entirely the channel of trade, open new resources, and add vastly to the business of the public works of the Province, and to the wealth and enterprise of the country through which it passes. To the city of Montreal it is of vital importance, situated as she will be at the foot of this long line of communication on the one hand and within 10 hours ride of one of the best harbours of the Atlantic coast on the other, she must unavoidably receive large accessions to her trade and commerce, and a vast increase of wealth.

In consequence of the limited time allowed me before the General Meeting of the Shareholders, I have not been able to present so full and comprehensive a statement as the importance and magnitude of the undertaking demand.

Many subjects of importance have necessarily been omitted which it was my intention to have presented at this time. These will form the subject of a future communication.

In conclusion, I beg leave to refer to the Appendix of this Report, for statistical information relative to the length, cost and revenue of the principal rail-ways in the United States, and the effect of rail-ways generally, in developing the resources and increasing the business and wealth of the country through which they pass.

I have the honor to be,

very respectfully, your obedient servant.

A. C. MORTON,

Chief Engineer.

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APPENDIX.

NOTE A.—Tabular Statement of the Length, Cost, Revenue and Expenses of the principal Rail-ways of the United States.

NOTE B.—Statement shewing the Increase of Revenue on various Rail-ways for various periods.

NOTE C.—Statement shewing the Increase of Passengers and Freight by the establishment of Rail-ways.

NOTE D.—Statement shewing the effect of Internal Improvement on the value of property.

NOTE A.

TABULAR STATEMENT of the Length, Cost, Receipts, Expenses and Net Income of the principal Rail-roads in the State of Massachusetts, for 1845.

| NAME OF ROAD. | Length. Miles. | Total Cost. Pounds. | Average Cost per mile. Pounds. | Receipts. Pounds. | Expenses. Pounds. | Net Revenue. | Per Cent. Per Annum on Cost. | Per Cent. of Receipts, for Expenses. | REMARKS. |
|---------------------------|-------------------|------------------------|---|----------------------|----------------------|-----------------|------------------------------------|--|---------------------------|
| Boston and Lowell..... | 25.75 | 483,149 | 18,763 | 89,017 | 44,760 | 44,257 | 9 ⁷ / ₁₆ | 50.28 | Double Track. |
| “ Maine..... | 71.00 | 471,832 | 6,645 | 71,766 | 38,524 | 33,242 | 7 | 53.68 | Single “ |
| “ Providence.... | 41.17 | 491,169 | 11,930 | 87,657 | 38,200 | 49,457 | 10 | 43.57 | “ “ |
| Eastern..... | 56.00 | 554,631 | 9,904 | 87,537 | 29,210 | 58,327 | 10 ¹ / ₄ | 33.36 | “ “ |
| Boston and Worcester..... | 44.50 | 725,000 | 16,292 | 121,864 | 62,432 | 59,432 | 8 ¹ / ₄ | 51.23 | Double “ |
| Western..... | 156.00 | 1,999,888 | 12,819 | 203,370 | 110,714 | 92,656 | 4 ³ / ₈ | 54.43 | Single “ |
| Fitchburg..... | 49.33 | 369,369 | 7,487 | 50,999 | 19,583 | 31,416 | 8 ¹ / ₄ | 38.39 | “ “ |
| Nashua and Lowell..... | 14.25 | 125,000 | 8,772 | 28,170 | 12,000 | 16,170 | 12 ³ / ₈ | 42.60 | Second Track in progress. |
| New Bedford and Taunton. | 20.00 | 113,405 | 5,670 | 19,552 | 7,346 | 12,206 | 10 ¹ / ₄ | 37.56 | Single Track. |
| TOTAL..... | 478.00 | 5,333,445 | 9,788 | 759,932 | 362,769 | 397,163 | 7 ¹¹ / ₁₆ | 47.75 | |

Aggregate length of all these Roads is 478 miles. Total Cost is £5,333,445. Average Cost reduced to a Single Track is £9,728 per mile. Total Net Revenue is £397,163, equal to 7¹¹/₁₆ per cent on the total cost. Total Expenses £362,769, equal to 47¹¹/₁₆ per cent on the Gross Receipts. All the above Roads have the H rail, varying in weight from 55 to 63 lbs. per yard.

**TABULAR STATEMENT of the Length, Cost, Receipts, Expenses, and Net Income of the principal
Rail-roads in the State of New York for 1845.**

| Names of Roads. | Length. Miles. | Total Cost. Pounds. | Average Cost per Mile. Pounds. | Receipts. | | Expenses. | | Net Revenue. | Per Cent. per annum on Cost. | Per Cent. of Receipts for Expenses. | Remarks. |
|----------------------------|-------------------|------------------------|---|-----------|---------|-----------|---------|-----------------|------------------------------------|---|---------------|
| | | | | Pounds. | Pounds. | Pounds. | Pounds. | | | | |
| Utica and Schenectady..... | 78 | 547,376 | 7,017 | 102,768 | 36,889 | 65,879 | 12 | 35,89 | | | Single Track. |
| Utica and Syracuse..... | 53 | 279,218 | 5,268 | 50,596 | 18,750 | 31,846 | 11½ | 37,10 | | | " |
| Auburn and Syracuse..... | 26 | 192,068 | 7,387 | 24,950 | 11,081 | 13,869 | 7½ | 44,41 | | | " |
| Auburn and Rochester..... | 78 | 458,011 | 5,872 | 59,765 | 24,246 | 35,519 | 7½ | 40,56 | | | " |
| Tonawanda..... | 43½ | 187,763 | 4,316 | 29,167 | 9,251 | 19,916 | 10½ | 31,71 | | | " |
| Attica and Buffalo..... | 31½ | 85,500 | 2,736 | 17,574 | 7,743 | 9,831 | 11½ | 44,06 | | | " |
| Total..... | 309½ | 1,749,936 | 5,649 | 284,820 | 107,960 | 176,860 | 10 | 37,08 | | | " |

All the above Roads are constructed with the plate rail, and are mostly single tracks. Aggregate length 309½ miles. Aggregate cost £1,749,936. Average Cost £5,649 per mile. Total net Revenue £176,860, equal to 10 per cent. (nearly) on the aggregate cost. Total expenses £107,960, equal to 37½ per cent. of the gross receipts.

NOTE B.

Statement showing the increase of business on various Rail-roads.

| | | | |
|--|--|--|------------------------------------|
| Boston and Lowell net revenue 1836..... | | | £22,450 |
| Do 1845..... | | | 44,256 |
| | | | <hr/> £21,806 increase in 9 years. |
| Boston and Norcester net revenue 1842..... | | | £45,174 |
| Do do 1845..... | | | 59,431 |
| | | | <hr/> £14,257 increase in 3 years. |
| Western—net revenue 1842..... | | | £61,517 |
| Do do 1845..... | | | 110,715 |
| | | | <hr/> £49,193 increase in 3 years. |
| Eastern—net revenue 1842..... | | | £37,532 |
| Do do 1845..... | | | 58,827 |
| | | | <hr/> £20,795 increase in 3 years. |
| Boston and Providence net revenue 1842..... | | | £30,911 |
| Do do 1845..... | | | 49,457 |
| | | | <hr/> £18,546 increase in 3 years. |
| Boston and Maine net revenue 1842..... | | | £19,150 |
| Do do 1845..... | | | 33,241 |
| | | | <hr/> £14,091 increase in 3 years. |
| Nashua and Lowell net revenue 1842..... | | | £ 9,903 |
| Do do 1845..... | | | 18,669 |
| | | | <hr/> £ 8,765 increase in 3 years. |
| New Bedford and Taunton net revenue 1842. £ | | | 8,105 |
| Do do 1845. | | | 12,209 |
| | | | <hr/> £ 4,104 increase in 3 years |
| Utica and Schenectady net revenue 1837..... | | | £48,198 |
| Do do 1845..... | | | 65,879 |
| | | | <hr/> £17,681 increase in 8 years. |
| Utica and Syracuse net revenue 1843..... | | | £23,568 |
| Do do 1845..... | | | 31,922 |
| | | | <hr/> £ 8,354 increase in 2 years. |
| Auburn and Rochester net revenue 1843..... | | | £22,073 |
| Do do 1845..... | | | 35,519 |
| | | | <hr/> £13,446 increase in 2 years. |

| | |
|--|--------------------------------------|
| Camden and Amboy net revenue 1833..... | £ 45,250 |
| Do do 1839..... | 106,750 |
| | <u>£ 61,500 increase in 6 years.</u> |

| | |
|---|--------------------------------------|
| Columbia and Philadelphia net revenue 1835 £ 57,338 | |
| Do do 1840 | 112,317 |
| | <u>£ 54,979 increase in 5 years.</u> |

| | |
|--|----------|
| Utica and Schenectady Rail-road 78 miles long, with flat bar rail cost 1836..... | £492,000 |
|--|----------|

The gross receipts in the first 5½ years after it was opened were. £504,994

The net revenue for the same time was.....£327,321

| | |
|--|----------|
| Utica and Syracuse Rail-road 53 miles long with flat bar rail cost 1839..... | £229,597 |
|--|----------|

The gross receipts in the first 7 years after it was opened were..£312,203

The net revenue for the same time was.....£134,424

| | |
|---|----------|
| Camden and Amboy Rail-road 98½ miles long, (including branches) with H rail cost..... | £805,000 |
|---|----------|

The gross receipts of this road from 1833 to 1841 inclusive, 8 years were.....£1,510,699

The net revenue for the same time was.....£786,964

NOTE C.

Increase of Passengers by the establishment of Rail-ways.

"From Baron Charles Dupin's Report on the Paris and Orleans Rail-way :

"Experience has proved both in France and abroad, that in a short space of time the facility, expedition and economy afforded by Rail-ways more than doubles the number of passengers and the quantity of merchandize."

"In order to support such statements we will quote the following facts relative to the Rail-ways of Belgium, England and Scotland, in positions of extreme difference and giving rise to a variation in the returns which far exceeded all anticipation."

Comparison of the number of travellers conveyed daily throughout the whole or a portion of the line :

| Rail-ways. | No. of Passengers before the establishment. | No. of Passengers after the establishment. |
|-------------------------------|---|--|
| Manchester and Liverpool..... | 400..... | 1,620 |
| Stockton and Darlington..... | 130..... | 630 |

| | | |
|-----------------------------|----------|-------|
| Newcastle and Carlisle..... | 90..... | 500 |
| Arbroath and Forfar..... | 20..... | 200 |
| Brussels and Antwerp..... | 200..... | 3,000 |

Increase of the number of Passengers by the establishment of a Rail-way

| | |
|-------------------------------|---------------|
| Liverpool and Manchester..... | 300 per cent. |
| Stockton and Darlington..... | 380 " |
| Newcastle and Carlisle..... | 455 " |
| Arbroath and Forfar..... | 900 " |
| Brussels and Antwerp..... | 1,400 " |

Thus even taking as a criterion the road on which the proportional increase is least of all, we still find that the number of passengers will increase not only 100 but 300 per cent. The transport of merchandize will experience a similarly rapid increase.

Progress in the conveyance of merchandize by Rail-way compared to that of passengers.

| Year. | Passengers. | Tons. |
|-----------|----------------|---------|
| 1834..... | 924,063..... | 22,909 |
| 1836..... | 1,248,552..... | 161,501 |
| 1838..... | 1,535,189..... | 274,803 |

Thus while the number of passengers increased 60 per cent in four years, in the same time the quantity of goods increased 1,100 per cent.

Extract from an Official Report on English Rail-ways made to the French Government by Edward Teisserence, its agent, charged with the special duty of making a study of these Rail-ways :

" The Darlington Rail-way has produced by its low rates of passage and freight, a complete revolution in the region of country which it traverses. It has increased the value of land 100 or 200 per cent. By these low rates the freight estimated at 80,000 tons has been increased to 640,000 tons. The passengers estimated at 4,000 have been increased to 200,000."

The following extract on the influence of Rail-ways in developing the resources of a country, is taken from the second report of the Irish Rail-way Commissioners.

" On the Newcastle and Carlisle road prior to the Rail-way, the whole number of persons the public coaches were licensed to carry in a week were 343, or both ways 686. Now the average daily number of passengers by Rail-way for the whole length, viz: 61 $\frac{1}{2}$ miles is 228 or 1,596 per week.

" The number of passengers on the Dundee and Newtyle line exceeds at this time 50,000 annually, the estimated number of persons who performed the same journey previous to the opening of the Rail-way having been 4,000.

"Previous to the opening of the Rail-way between Liverpool and Manchester, there were about 400 passengers per day or 146,000 per year, travelling between those places by coaches, whereas the present number by Rail-way alone exceeds 500,000.

"In foreign countries the results arising from the same cause are equally if not more striking. The number of persons who usually passed between Brussels and Antwerp was 75,000 in the year, but since the Rail-Road has been opened from the former place to Malines, it has increased to 500,000, and since it was carried all through to Antwerp, the number has exceeded a million. The opening of a branch from Malines to Termonde appears to have added 200,000 to the latter number, so that the passenger traffic of that Rail-road superseding a road traffic of only 75,000 persons now amount to 1,200,000.

"It is remarkable that on this as on most other Rail-roads, the greatest number of passengers are those who travel short distances being as two to one compared with those who go the whole distance. This appears from a statement read by Mr. Loch, before the Statistical Society of Manchester, showing that between April, 30th and August 15th 1836, 122,417 persons travelled the whole distance and 244,834 short distances, chiefly to and from Malines."

NOTE D.

Tables showing the effect of Internal Improvements on the value of property in the city of New York.

Table 1st.—Chronological Table of the assessed value of Real and Personal Estate in the city of New York during the three Commercial periods.

First period—From 1815, to the completion of the Erie Canal.

| Year. | Assessed Valuation | Year. | Assessed Valuation. |
|-----------|--------------------|-----------|---------------------|
| 1815..... | £20,409,010 | 1820..... | £17,384,938 |
| 1816..... | 20,518,550 | 1821..... | 17,071,268 |
| 1817..... | 19,723,930 | 1822..... | 17,822,286 |
| 1818..... | 20,061,273 | 1823..... | 17,735,205 |
| 1819..... | 19,778,265 | 1824..... | 20,768,919 |

Second period—From the opening of the Erie Canal to 1832.

| | | | |
|-----------|-------------|-----------|-------------|
| 1825..... | £25,290,011 | 1829..... | £28,131,504 |
| 1826..... | 26,869,445 | 1830..... | 31,322,129 |
| 1827..... | 28,052,982 | 1831..... | 34,820,056 |
| 1828..... | 28,504,883 | 1832..... | 36,575,654 |

Third Period—From 1833 to 1840.

| | | | |
|-----------|-------------|-----------|-------------|
| 1833..... | £41,623,797 | 1837..... | £65,936,837 |
| 1834..... | 46,637,128 | 1838..... | 66,038,235 |
| 1835..... | 54,680,926 | 1839..... | 66,720,607 |
| 1836..... | 77,375,230 | 1840..... | 63,033,879 |

During the latter period, namely, since 1833, about 470 miles of Rail-road have been completed and put in operation in the State of New York, besides about 2500 miles of Rail-road in other States. Thus it will appear that since the introduction of the *Rail-road system* the value of Real and personal Property in the city of New York, have increased over *twenty-five millions of pounds*.

Table 2d.—Chronological Table of the assessed value of Real Estate only in the City of New York for a series of years:

| Year. | Value of Real Estate. | Year. | Value of Real Estate. |
|-----------|-----------------------|-----------|-----------------------|
| 1820..... | £13,015,714 | 1833..... | £28,531,142 |
| 1823..... | 12,546,057 | 1834..... | 30,812,320 |
| 1825..... | 14,606,349 | 1836..... | 58,435,576 |
| 1828..... | 19,294,970 | 1839..... | 49,235,033 |
| 1831..... | 23,929,121 | 1840..... | 46,780,429 |

Increase of value of Real Estate in New York since 1831, almost 23 millions of pounds.

| | |
|--|-------------|
| Assessed value of Personal Estate in 1840..... | £16,253,450 |
| Do. do. do. 1833..... | 13,091,744 |
| Increase..... | £3,161,706 |

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